

In the Claims:

1. A method of molding semiconductor assemblies on multiple semiconductor substrates/leadframes comprising the steps of:

providing vertically stacked molding die layers stacked one above the other with die halls between the stacked die layers and a die hall in a top die layer;

providing semiconductor substrates with semiconductor assemblies between said vertically stacked layers; and

flowing molding compound through said top layer into the substrate/leadframe in the top die section and from the top die section through die halls between stacked die layers to the other substrate/leadframes between stacked layers.

2. The method of Claim 1 wherein said flowing step includes runners or channels for distributing molding compound in the die sections.

3. The method of Claim 1 wherein said flowing step includes a press rod for pressing the molding compound through said die hall in said top die.

4. A die mold machine for molding a plurality of semiconductor assemblies on multiple substrate/leadframes comprising:

a plurality of die mold layers stacked vertically one above the other, said die molds layers having at least one aperture or die hall in the top most die layer and apertures or die halls in the in-between layers for passing molding compound which flows through the die hall in the top wall and down through the die halls or apertures between the die mold layers into the die mold sections for molding semiconductor assemblies on said substrate/leadframes between said die mold layers.

5. The machine of claim 4 wherein said die mold layers include runners for distributing the molding compound to mold framing pockets in the die mold layers.

5 6. The machine of Claim 5 including a press rod for pressing the molding compound through an aperture in the top layer and the other apertures in the intermediate layers.

7. The machine of Claim 3 including a press rod for pressing the molding compound through an aperture in the top layer and the other apertures in the intermediate layers.